

NMCP COVID-19 Report #8: Friday, 24 April 2020

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Disclaimer: I am not a medical professional. This document is current as of the date noted above. While I make every effort to find and summarize available data, things are changing rapidly, with new research and potentially conflicting literature published daily. Best practice and evidence are constantly shifting during this international public health crisis.

Reports are biweekly, planned for Tuesdays and Fridays.

Statistics (as of Friday, 24 April 2020 at 1200)

Global: 2,736,979 confirmed cases, 192,125 deaths in 185 countries/regions	
United States	Virginia
JHU CSSE Total confirmed cases: 870,468 Top 5 states (VA is ranked 18th) NY: 263,460 NJ: 100,025 MA: 46,023 CA: 39,637 PA: 38,379 Total deaths: 50,031 NY: 20,982 NJ: 5,426 MA: 2,360 CA: 1,534 PA: 1,724 Total tested: 4,692,797 NY: 695,920 NJ: 200,148 MA: 195,076 CA: 482,097 PA: 178,708 Dept VA Positive Cases: 6,363 Inpatient Deaths: 400	VHHA Ventilators: 2,903 on hand; 646 in use (22%) Bed availability: 5,485 VA DOH Total tested: 69,015 Total cases / hospitalizations / deaths: state: 11,594 / 1,837 / 410 region: Chesapeake: 197 / 43 / 5 Hampton: 99 / 26 / 1 Newport News: 107 / 32 / 6 Norfolk: 141 / 31 / 3 Portsmouth: 100 / 30 / 4 Suffolk: 138 / 30 / 4 Virginia Beach: 331 / 65 / 10 Dept VA Positive Cases (3 facilities): 130 Hampton, VA: 59 Inpatient Deaths (3 facilities): 5 Hampton, VA: 1

Guidelines

The National Institutes of Health (NIH) has published *Coronavirus Disease 2019 (COVID-19) Treatment Guidelines*. It is intended to be a "living document" – updated frequently as new published data and other authoritative information becomes available. You can find the guidelines here: <https://www.covid19treatmentguidelines.nih.gov/>

Returning to Normal Operations

A blog post summarizing a webinar from Advisory Board, a healthcare industry consulting firm, notes:

"As health systems start addressing the question of when to reopen for routine care and elective surgery, [they must develop sustainable solutions to at least two challenges](#). First, can they ensure a steady sufficient supply of PPE? Second, will they have enough healthy, fully engaged staff to care for both ongoing Covid-19 patients and new patients who will be seeking care for other conditions?" ([Advisory Board](#))

They mention issues of volume recovery, revenue cycles, and other economic factors impacting return to normal operations. In another discussion of the above material, they suggest there are four questions hospitals should ask:

1. When do we reopen this service, considering safety, legal and public relation concerns?
2. How many patients should we leave in the queue?
3. What is our post-COVID-19 capacity for this service?
4. How is post-COVID-19 demand for this service different? ([Beckers \[Haefner\]](#))

See also: This discussion from hospital and health system leaders on things to consider ([Beckers \[Gamble\]](#)) and this website on steps needed to return to normal operations ([Cadmus](#)).

Resuming Elective Surgeries

On 17 April 2020, ACS, ASA, AORN, and the American Hospital Association released a joint statement "roadmap" for resuming elective surgeries. It speaks to timing for resumption of elective surgeries, COVID-19 testing within a facility, PPE, triage/case prioritization and scheduling, postsurgical care issues, data management, safety and risk mitigation with "second wave" COVID cases, and related issues ([ACS et al.](#)) A pre-proof article may provide additional guidance on what procedures to allow based on a scoring system ([J Am Coll Surg](#)).

The COVIDSurg Collaborative has published a scoping review to help guide surgical care during the pandemic that notes any plan should include provision of staff training, support for overall response, a team-based approach to emergency care, and how to manage COVID-19 infection in surgical patients ([Br J Surg](#)).

One article describes the experience in Italy in developing protocols and clinical pathways non-COVID patients requiring acute surgical care that cannot be deferred ([World J Emerg Surg](#)). An editorial published American Journal of Surgery notes the challenges with elective surgeries (including what qualifies as "elective") and the need for a framework at the local level to guide decision making ([Am J Surg](#)).

For a selection of PubMed citations that speak to prioritizing surgeries, strategies for surgical care, concerns by specialty or field, and the impact on medical education, see:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/tracy.shields.1/collections/59557917/public/>

Elective Surgeries and COVID-19

Current published evidence on this topic comes from a retrospective analysis of 34 patients in Wuhan, China who underwent elective surgeries from 01 January to 05 February 2020, which found all patients developed COVID-19 after surgery. All patients had a history of direct exposure to the community before admission, none had any sign or symptoms of COVID-19 before surgery, symptoms started quickly after surgery completion, and SARS-CoV-2 infection was confirmed through testing. The authors note that length of time from admission to surgery (median 2.5 days) is shorter than median incubation time of the region (median 5.2 days). They state: "These evidences collectively support our belief that the patients included in the current study are in their incubation period of COVID-19 infection before undergoing surgeries." Of the 34 patients, 15 (44.1%) needed intensive care treatment ([EClinicalMedicine](#)).

Additional Resources

A Penn Medicine tool for hospital capacity planning may be of particular interest with this topic ([CHIME](#)). Selected additional resources that may be of interest:

- ASPR TRACIE topic collection: recovery planning. Link: <https://asprtracie.hhs.gov/technical-resources/18/recovery-planning/110>
- Butler SM. After COVID-19—Thinking Differently About Running the Health Care System (23 April 2020). Link: <https://jamanetwork.com/channels/health-forum/fullarticle/2765238>
- Harvard T.H. Chan School of Public Health and the New England Journal of Medicine. COVID-19: Where do we go from here? virtual symposium (21 April 2020) Link: <https://theforum.sph.harvard.edu/events/covid-19/>
- Harvard School of Public Health Emergency Preparedness and Response Exercise Program. Essential Functions and Considerations for Hospital Recovery (September 2013). Link: <https://www.urmc.rochester.edu/MediaLibraries/URMCMedia/flrtc/documents/Essential-Functions-and-Considerations-of-Hospital-Recovery.pdf>

COVID-19 and Animals

The CDC has confirmed cases of SARS-CoV-2 infection in two pet cats in New York state. One cat owner tested positive for COVID-19 prior to the cat showing signs of respiratory illness. The other cat showed mild respiratory signs but no one in the household were confirmed ill, leading investigators to conclude the virus may have transmitted by mildly ill or asymptomatic contacts in or outside of the home ([CDC](#)).

Previously, several lions and tigers at the Bronx zoo in New York showed signs of respiratory illness, with a tiger confirmed to test positive for SARS-CoV-2 ([USDA](#)). Several dogs in Hong Kong and a cat in Belgium have also been documented to have positive test results after close contact with humans ([OIE](#)).

There is no evidence to suggest that animals play a significant role in spreading the virus, and the risk of animals spreading to humans is low ([CDC](#)). The American Veterinary Medical Association ([AVMA](#)).

Summaries from Other Sources

[CEBM](#): What conditions could we prioritise in the primary care setting to reduce non-COVID-related admissions to hospital? (22 April 2020)

"This rapid review has established that targeted interventions for influenza, COPD, CHF, diabetes, UTI and cellulitis should be identified to support increased management in primary care settings. This could result in keeping people well and reducing preventable hospital admissions where possible.

We suggest that a series of rapid reviews are now conducted to identify those existing, effective interventions for COPD, CHF, diabetes, UTI and cellulitis that could be adapted and implemented rapidly, for primary care."

[CEBM](#): Are interventions such as social distancing effective at reducing the risk of asymptomatic healthcare workers transmitting COVID-19 infection to other household members? (21 April 2020)

"We found no studies that examined social distancing of asymptomatic healthcare workers from family members within the home. People should be cautious of this step given the increased risk of isolation and anxiety it may bring. Symptomatic healthcare workers should follow guidelines for self-isolating in the home. Healthcare workers can take other measures to protect family such as hand hygiene both at home and on return from work and using correct personal protective equipment at work, where available."

Recent Primary Literature

[JAMA](#): Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized With COVID-19 in the New York City Area (22 April 2020)

"In this case series that included 5700 patients hospitalized with COVID-19 in the New York City area, the most common comorbidities were hypertension, obesity, and diabetes. Among patients who were discharged or died (n = 2634), 14.2% were treated in the intensive care unit, 12.2% received invasive mechanical ventilation, 3.2% were treated with kidney replacement therapy, and 21% died."

[JAMA](#): Alterations in Smell or Taste in Mildly Symptomatic Outpatients With SARS-CoV-2 Infection (22 April 2020)

This research letter from Italy describes a survey of 202 patients. "Alterations in smell or taste were frequently reported by mildly symptomatic patients with SARS-CoV-2 infection and often were the first apparent symptom." The authors note: "If these results are confirmed, consideration should be given to testing and self-isolation of patients with new onset of altered taste or smell during the COVID-19 pandemic."

[JAMA Pediatr](#): Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Infection in Children and Adolescents: A Systematic Review (22 April 2020)

"In this systematic review of 18 studies with 1065 participants, most pediatric patients with SARS-CoV-2 infection presented with fever, dry cough, and fatigue or were asymptomatic; 1 infant presented with pneumonia, complicated by shock and kidney failure, and was successfully treated with intensive care. Most pediatric patients were hospitalized, and symptomatic children received mainly supportive care; no deaths were reported in the age range of 0 to 9 years."

[Am J Trop Med Hyg](#): Respiratory Support in Novel Coronavirus Disease (COVID-19) Patients, with a Focus on Resource-Limited Settings (21 April 2020)

"Key messages include that supplemental oxygen is a first essential step for the treatment of severe COVID-19 patients with hypoxemia and should be a primary focus in resource-limited settings where capacity for invasive ventilation is limited. Oxygen delivery can be increased by using a non-rebreathing mask and prone positioning. The presence of only hypoxemia should in general not trigger intubation because hypoxemia is often remarkably well tolerated. Patients with fatigue and at risk for exhaustion, because of respiratory distress, will require invasive ventilation. In these patients, lung protective ventilation is essential. Severe pneumonia in COVID-19 differs in some important aspects from other causes of severe pneumonia or acute respiratory distress syndrome, and limiting the positive end-expiratory pressure level on the ventilator may be important. This ventilation strategy might reduce the currently very high case fatality rate of more than 50% in invasively ventilated COVID-19 patients."

[medRxiv](#)*: Outcomes of hydroxychloroquine usage in United States veterans hospitalized with Covid-19 (21 April 2020)

A preprint article (not yet peer-reviewed) in which 368 male veterans with confirmed COVID-19 had their records analyzed. They found that about 28% of those who were given hydroxychloroquine (a drug used to treat malaria) plus usual care died, versus 11% getting routine care alone. About 22% of those given hydroxychloroquine plus azithromycin died as well, but the difference compared to routine care was not significant.

"In this study, we found no evidence that use of hydroxychloroquine, either with or without azithromycin, reduced the risk of mechanical ventilation in patients hospitalized with Covid-19. An association of increased overall mortality was identified in patients treated with hydroxychloroquine alone. These findings highlight the importance of awaiting the results of ongoing prospective, randomized, controlled studies before widespread adoption of these drugs."

*bioRxiv and medRxiv are preprint servers: "[T]hese are preliminary reports that have not been peer-reviewed. They should not be regarded as conclusive, guide clinical practice/health-related behavior, or be reported in news media as established information."

Looking for other recent literature? Try LitCOVID – it is a curated literature hub from the National Library of Medicine's Computational Biology Branch for tracking up-to-date scientific information about the 2019 novel coronavirus. See:

<https://www.ncbi.nlm.nih.gov/research/coronavirus/>

In Brief

Timeline of COVID-19 in US

Santa Clara County Public Health in California has announced that autopsy results from two patients who died at their homes on 06 and 17 February showed that they were infected with SARS-CoV-2. The results were determined by tissue samples and confirmed by the CDC. The patients had no known previous travel to explain exposure, so they are presumed to have contacted the virus through community transmission. Prior to this announcement, the first coronavirus-related deaths were thought to be in Seattle, from 26 and 29 February ([NYT](#)).

Avoiding Care

As patients worry about contacting the virus, parents are postponing well-baby visits, decreasing rates of vaccinations and increasing concerns of non-COVID outbreaks ([NYT](#)).

Patients with serious heart symptoms may be avoiding emergency care because of COVID concerns ([STAT](#)).

Testing & Epidemiology

A new report from Johns Hopkins describes potential uses of serology (antibody) tests, areas of uncertainty where additional research is needed, and examples from other countries now beginning to make use of these tests ([JHCHS](#)).

Australia is calling for WHO to have similar powers of weapons inspectors and avoid negotiations with countries to go in and investigate public health crisis ([SMH](#)).

When to Reopen & Economic Impact

Documents produced by the Department of Health and Human Services in early April show projections with 4 scenarios on reopening and outline how bad things could get ([NPR](#)).

CDC director Robert Redfield has voiced concerns of a "second wave" with reopening too soon ([WashPo](#)).

A report from the American Enterprise Institute outline steps needed to resume "normal" and the various phases of recovery ([AEI](#)). A more recent report offers guidance at the state level for phased reopening ([JHCHS](#)).

A 2013 article on 'flu-conomics' predicted how the next pandemic (assumed to be influenza) would trigger a global recession and have widespread economic effects ([Reuters](#)).

Curious to know where the idea of 'social distancing' came from? This article from the New York Times goes into the history and how ended up as policy ([NYT](#)).

Misinformation

The 'infodemic' of misinformation ([UN](#)) during the pandemic is real and a growing concern ([STAT](#)).

NPR's Life Kit podcast has audio and a comic to help identify fake news ([NPR](#)).

Healthcare professionals also have a vital role in combating misinformation during the pandemic ([JAMA](#)).

Looking Ahead

Planned for upcoming reports: special topic on ethics during pandemics; COVID-19 podcasts; mental health support and awareness; and any other submitted requests.

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VA DOH: Virginia Department of Health. COVID-19 in Virginia, updated daily. Link:

<http://www.vdh.virginia.gov/coronavirus/>

VHHA: Virginia Hospital and Healthcare Association. Virginia Hospital COVID-19 Dashboard

(updated daily) Link: <https://www.vhha.com/communications/virginia-hospital-covid-19-data-dashboard/>

Returning to Normal Operations

ACS et al: American College of Surgeons (ACS) American Society of Anesthesiologists, ASA), Association of periOperative Registered Nurses (AORN), American Hospital Association (AHA).

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